

Strong Storm System Tonight into Monday

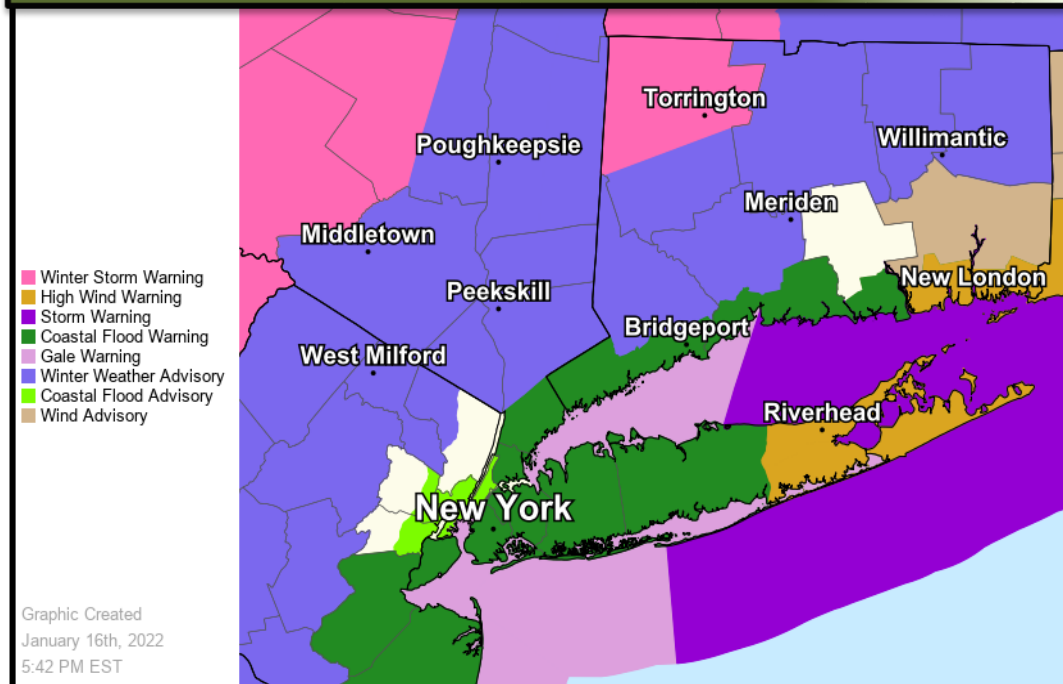
Decision Support Briefing #4

As of: 6 PM Jan 16, 2022






What has Changed?

- ✓ Winter Weather Advisory expanded to include Rockland, N Westchester, N Fairfield, N New Haven, W Bergen, and E Passaic Counties.
- ✓ Special Weather Statement through 12 am Monday for Long Island, New York City, suburbs just N and W, coastal and southeast CT for spotty light freezing rain and light coating of snow.
- ✓ Coastal Flood Warning expanded to include Staten Island and Brooklyn
- ✓ Storm Warning expanded to include the ocean waters between Fire Island Inlet and Moriches Inlet.

Current Hazards

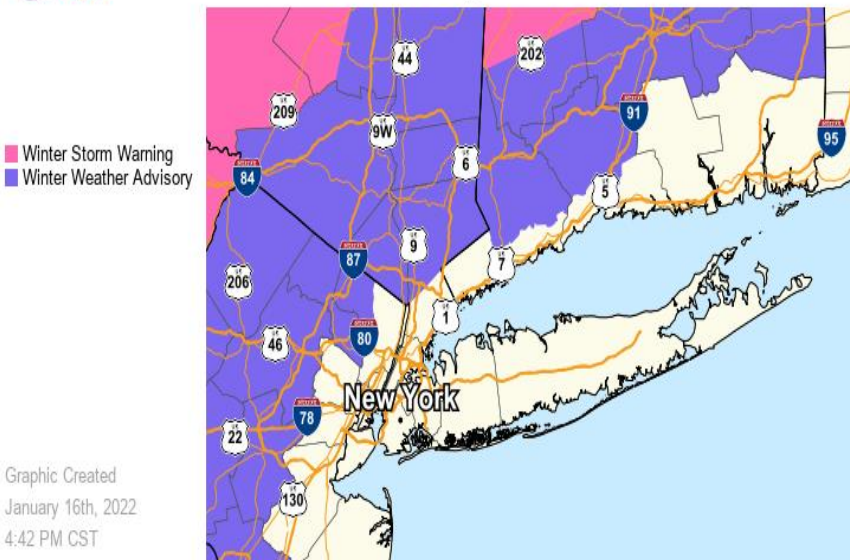


Tonight into Monday Main Points

Hazard	Impacts	Location	Timing
Coastal Impacts 2 to 2 ½ ft, locally 3 ft flooding above ground 	<ul style="list-style-type: none"> Moderate to locally major coastal flood impacts for vulnerable coastal communities. Areas of dune erosion and scattered overwashes. 	Coastal Impacts – along LI Sound and southern and eastern bays of LI/Queens, lower NY Harbor. Dune impacts - Oceanfront	Around times of high tide early Monday
Strong/Damaging Winds Coast: 25-35G45-55mph E LI/SE CT: 30-40G55-65mph 	<ul style="list-style-type: none"> Numerous downed trees limbs, scattered trees and power lines. Power outages possible. 	Damaging Winds – E LI & SE CT Strong Winds – Rest of Coast, including NYC/NJ metro	Midnight into Monday AM
Snow and Ice 1-5” Trace to 0.10” ice 	<ul style="list-style-type: none"> Snowfall rates of up to 1”/hr possible this evening. Snow and ice covered roads Difficult travel. 	Interior portions of Lower Hudson, SW CT, and NE NJ	Snow develops this evening, becomes wintry mix after midnight, and rain late tonight. Tapering off by midday.
Heavy Rain 1-2” rain 	<ul style="list-style-type: none"> Brief snow at onset this evening with a coating possible Minor urban and poor drainage flooding 	LI, NYC/NJ metro, coastal CT	This evening into Monday morning, tapering off by midday.
Marine 	<ul style="list-style-type: none"> Storm Conditions Eastern waters Gale conditions Western waters. Seas of 14-18 ft on the Ocean and 4-8 ft on LI Sound. 	All Nearshore Waters	Tonight into Monday Morning

Snow, Wintry Mix and Heavy Rain Tonight into Monday AM

Winter Watches Warnings and Advisories



Uncertainty:

Timing of changeover from snow to wintry mix and rain may. An hour or two later (earlier) timing could make the difference in an inch more (or less) of snow accumulation.

Winter Weather Advisory: 2-5" of snowfall for Western Passaic, Orange and Putnam

A couple hundredths of an inch of ice accretion

- ✓ **Timing:** Snow begins this evening. The snow may be moderate at times. Snow changes to wintry mix after midnight and rain by early Monday AM, before tapering off by midday Monday.
- ✓ **Snowfall rates:** Up to 1"/hr through around midnight
- ✓ **Temperatures:** Low 20s this eve (dry snow) rising to the mid 30s early Monday AM (wet snow/wintry mix going to rain).
- ✓ **Impacts:** Snow and ice covered roads Tonight into early Monday morning.

1-2" of snowfall for interior portions of NE NJ and S CT and Rockland and Westchester, with 1 to 2" of rain.

- ✓ **Timing:** Snow begins this evening, changing to rain by 2am. Moderate to heavy rain late tonight into Monday am, before tapering by midday Monday.
- ✓ **Temperatures:** Upper 20s this evening rising to lower 40s by Mon AM
- ✓ **Impacts:** Snow and ice covered roads through into late Sunday Night. Minor poor drainage flooding possible late Sunday Night into Monday AM.

0 to <1" of snowfall for NYC, coastal and SE CT, and LI with 1 to 2" of rain

- ✓ **Timing:** Brief snow onset as snow possible this evening with spotty freezing rain possible, changing to rain quickly through the rest of the evening. Moderate to heavy rain overnight into Monday am.
- ✓ **Temperatures:** Low-mid 30s this evening rising to mid 40s by Mon AM
- ✓ **Impacts:** Minor accumulation possible N of NYC. Minor urban and poor drainage flooding possible tonight into Monday AM.



Most Likely Snowfall Tonight into Monday AM

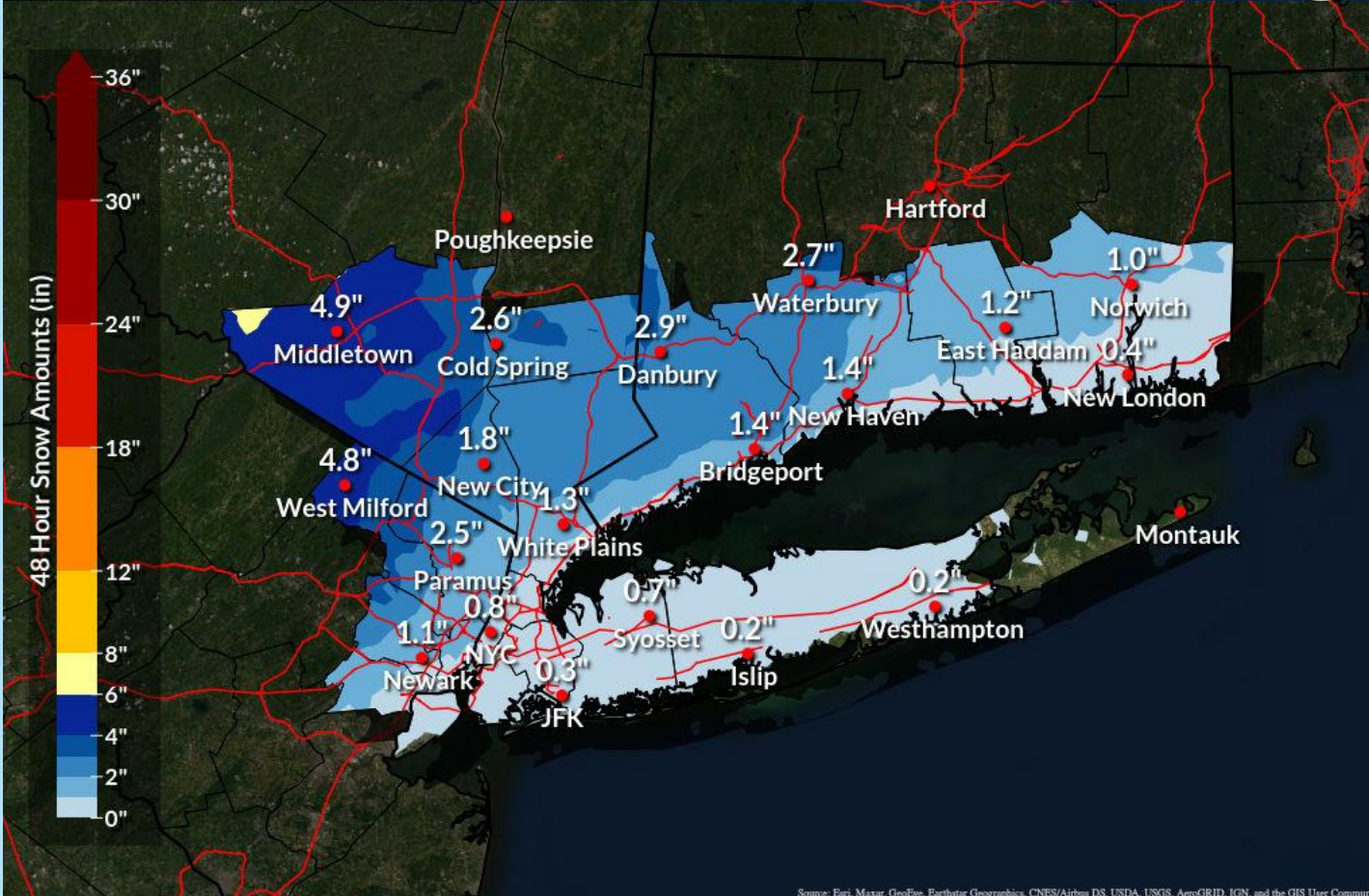
Expected Snowfall - Official NWS Forecast

Weather Forecast Office
New York, NY



Valid 7 PM Sun Jan 16, 2022 through 7 PM Tue Jan 18, 2022 EST

Issued Jan 16, 2022 4:11 PM EST



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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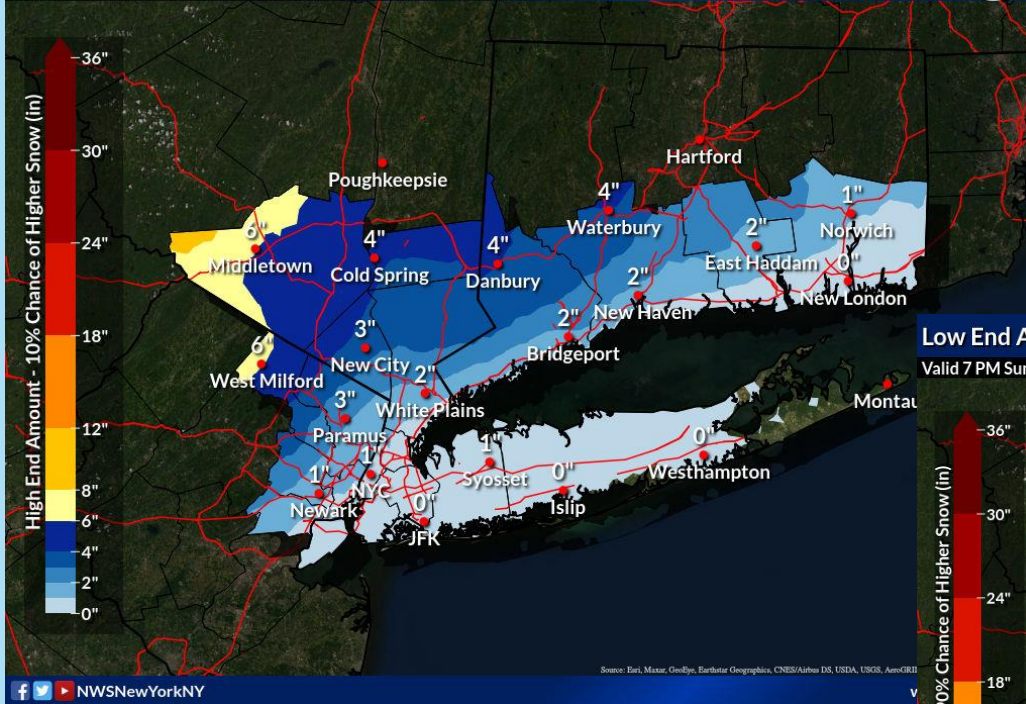
Probabilistic Snowfall Forecasts for Tonight into Monday AM

High End Amount - 1 in 10 Chance (10%) Of Higher Snowfall

Weather Forecast Office
New York, NY

Valid 7 PM Sun Jan 16, 2022 through 7 PM Tue Jan 18, 2022 EST

Issued Jan 16, 2022 4:11 PM EST



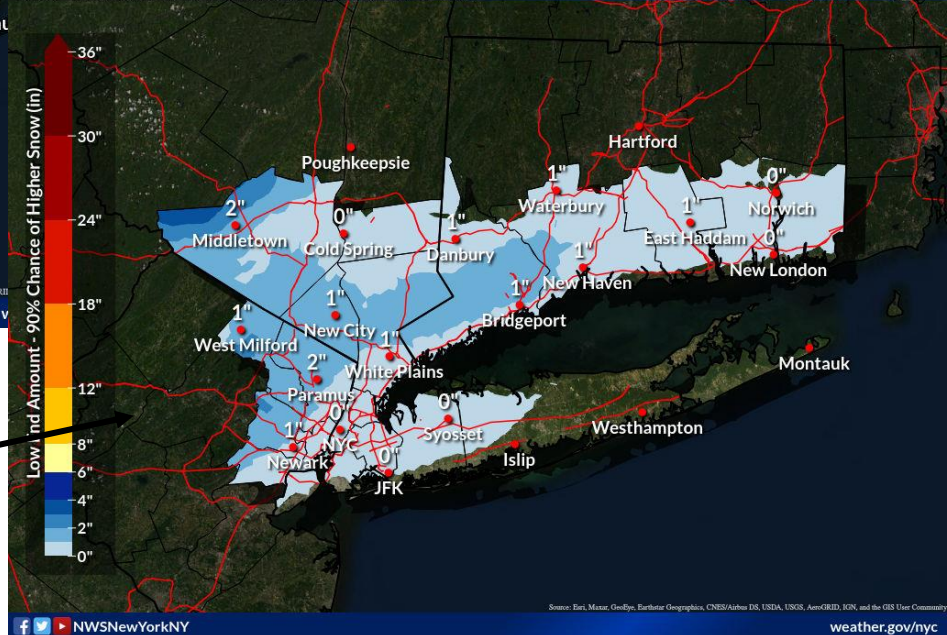
Snow amounts could be close to these levels if transition to rain is on the slower end of scenarios tonight into Monday AM

Low End Amount - 9 in 10 Chance (90%) Of Higher Snowfall

Weather Forecast Office
New York, NY

Valid 7 PM Sun Jan 16, 2022 through 7 PM Tue Jan 18, 2022 EST

Issued Jan 16, 2022 4:11 PM EST



Snow amounts could be this low if transition to rain is on the quicker end of scenarios.

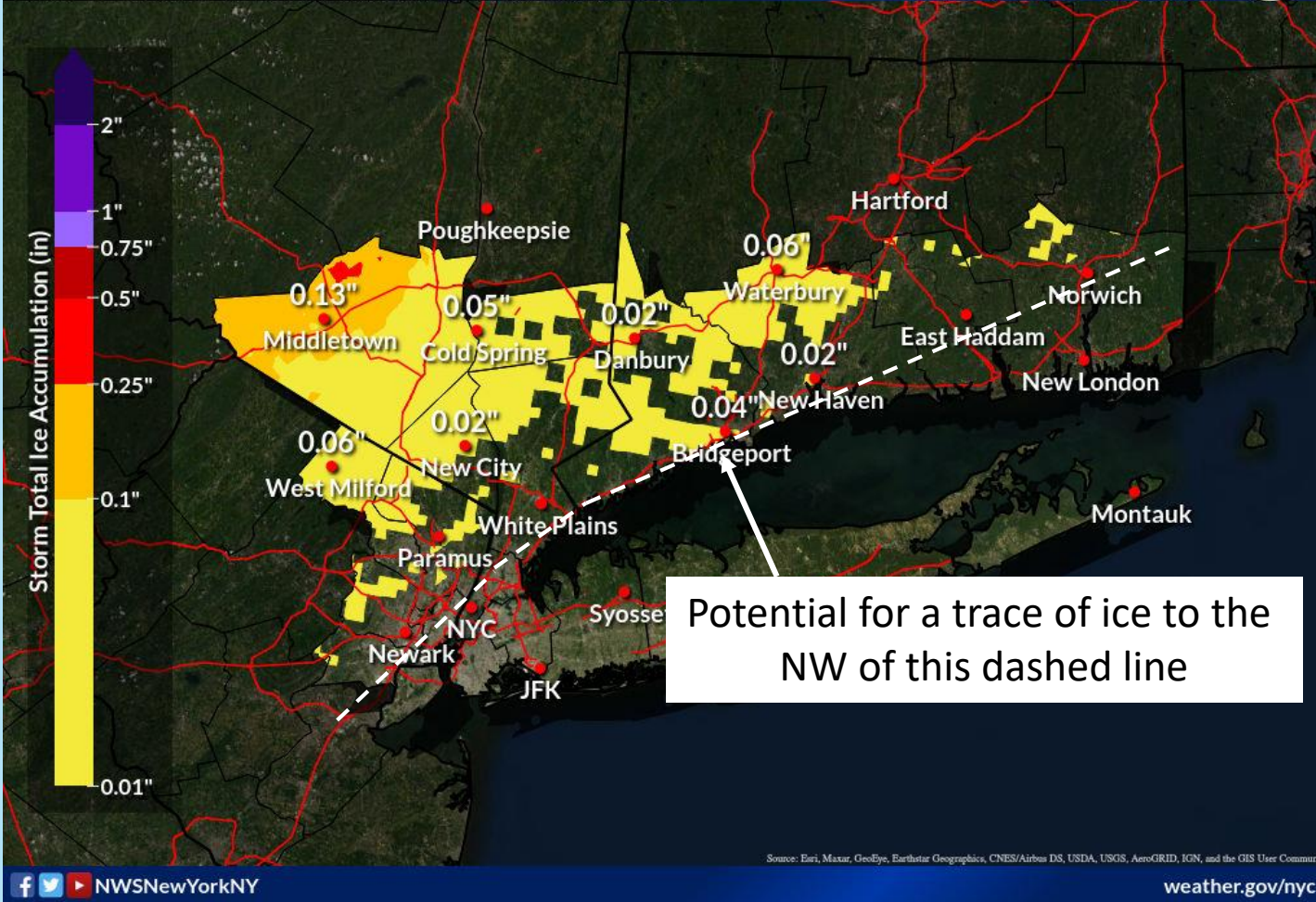
Most Likely Ice Accumulation for Tonight into Monday AM

Expected Ice Accumulation - Official NWS Forecast

Weather Forecast Office
New York, NY

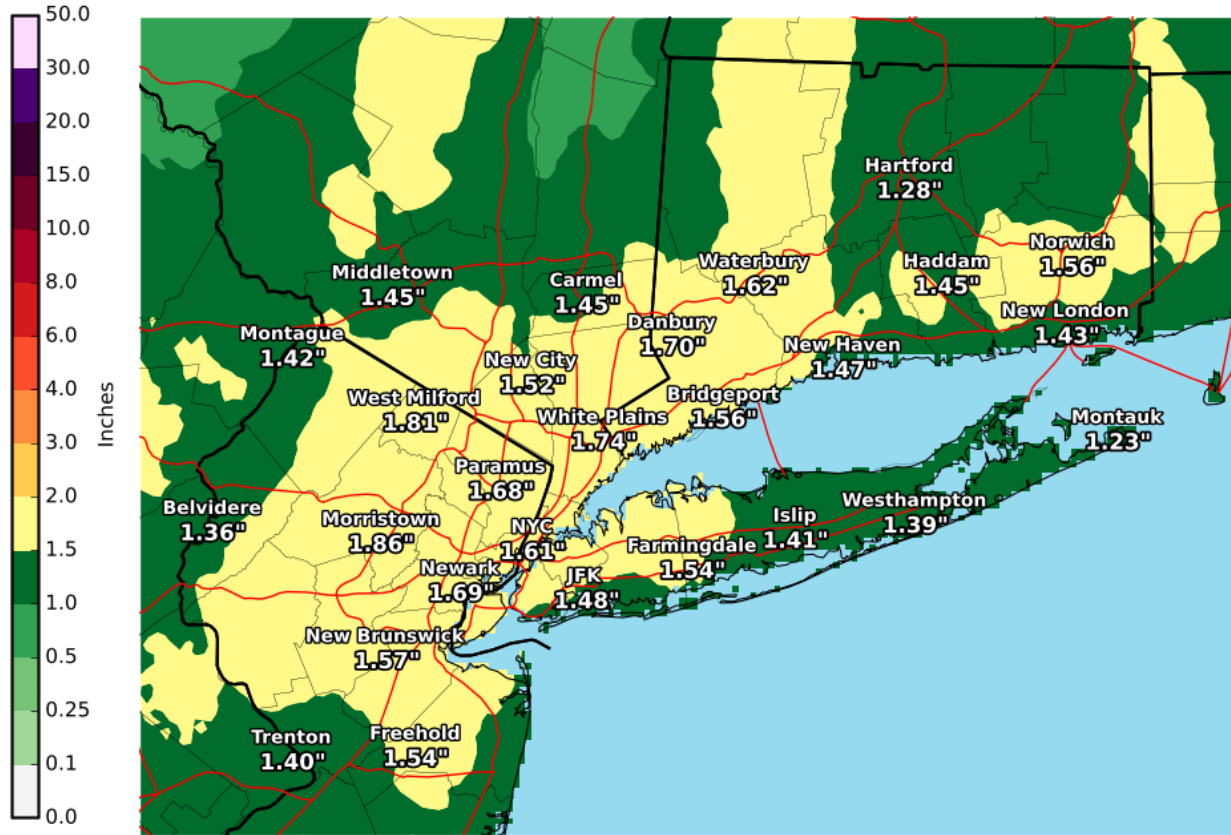
Valid 7 PM Sun Jan 16, 2022 through 7 AM Mon Jan 17, 2022 EST

Issued Jan 16, 2022 4:12 PM EST



Official Rainfall Forecast Tonight into Monday AM

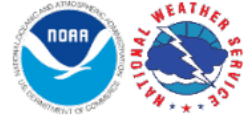
Expected Rainfall/Liquid Equivalent
 Valid: 01/16/2022 12:00 AM - 01/19/2022 12:00 PM EST



Total Rainfall/Liquid Equivalent – 1 to 2"
 This image is depicting the total combination of melted down snow/ice and rainfall Tonight through Monday Morning.

Rainfall rates – Up to ½"/hr

Impacts – Some minor urban and poor drainage flooding possible due to combo of rain, snow melt, and frozen ground.

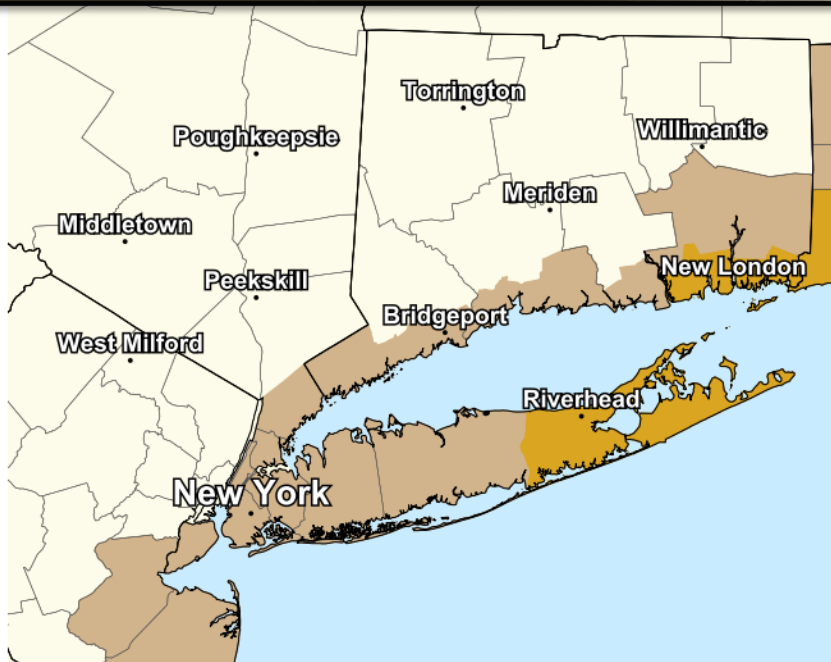


National Weather Service
 New York NY
 01/16/2022 03:36 PM EST

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Strong to Damaging Winds Tonight into Monday AM

Wind Related Hazards



High Wind Warning – Damaging Winds

- ✓ Eastern Long Island and southeast CT
- ✓ Hazard: E-SE winds 30 to 40 mph winds with gusts 55 to 65 mph.
- ✓ Impacts: Numerous downed tree limbs. Scattered downed trees. Power outages likely. Dangerous travel conditions for high profile vehicles

Wind Advisory - Strong winds

- ✓ Rest of Long Island, CT and Westchester coast and NYC metro:
- ✓ Hazard: E-SE winds of 25 to 35 mph with gusts 45 to 55 mph.
- ✓ Impacts: Scattered downed tree limbs. Isolated downed trees. Power outages possible. Dangerous travel conditions for high profile vehicles

Interior -

- ✓ Hazard: East winds 15 to 25 mph gusts 30 to 40 mph.
- ✓ Impacts: Blowing snow for far Interior areas Tonight

Timing:

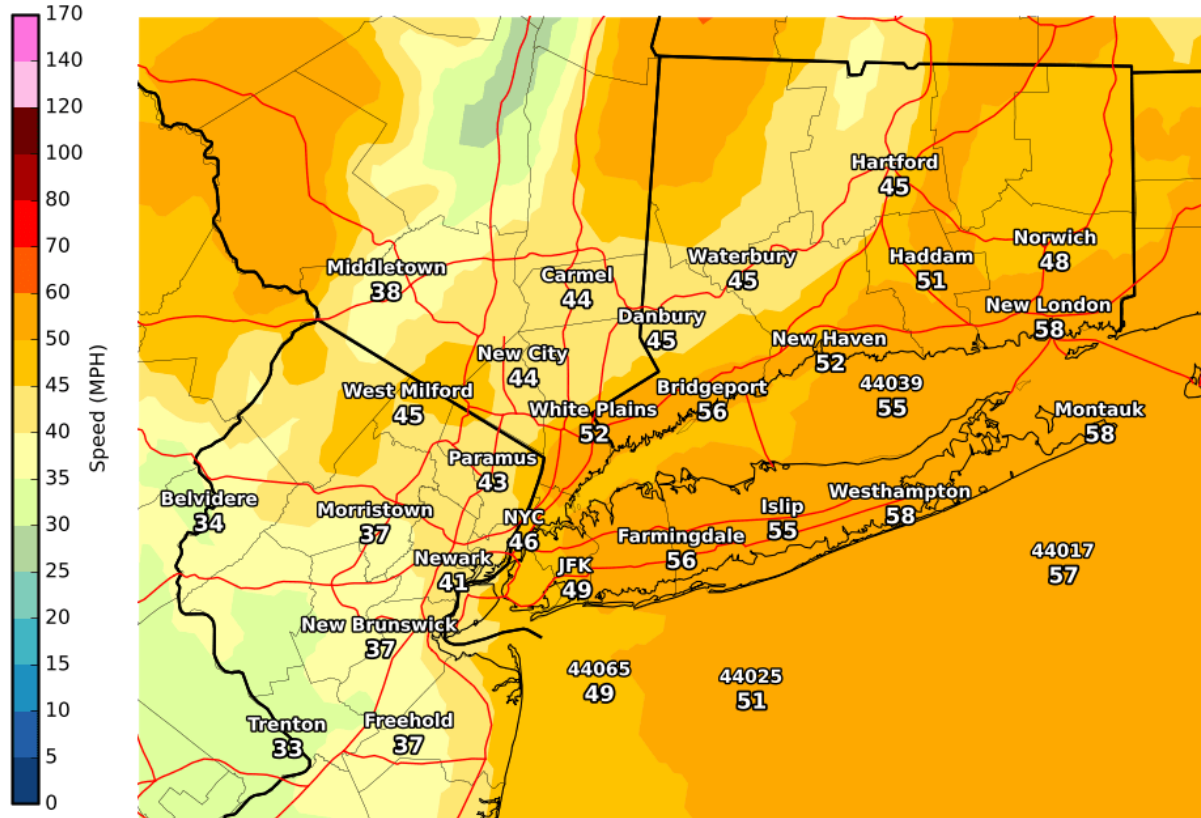
- ✓ Strongest winds from late this evening into Monday morning

Graphic Created
January 16th, 2022
5:42 PM EST

Strong/Damaging Winds

Maximum Wind Gust (MPH)

Valid: 01/16/2022 03:00 PM - 01/21/2022 03:00 PM EST



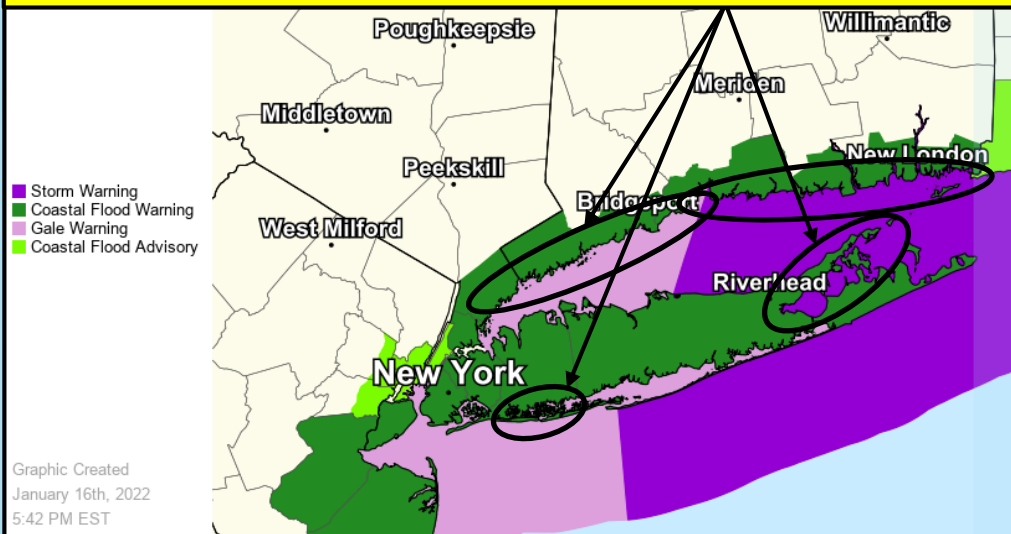
National Weather Service
New York NY
01/16/2022 03:35 PM EST

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Coastal Flooding Monday Morning

Marine / Coastal Hazards

Threat areas for moderate to locally major coastal flooding around early Monday high tide (3 ft above ground level)



For the latest coastal flood forecasts (hydrographs and tables) and the tools to visualize the potential coastal impacts (zoomable potential inundation map, impact catalogs, climatology, etc.) in your area of concern please go to the [NWS New York, NY Coastal Flooding Page](#)

Coastal Flood Hazards and Impacts:

- ✓ **Widespread Moderate to locally Major coastal flooding (2 to 3 ft above ground)** - for S Nassau, Twin Forks of LI, S Westchester and much of coastal CT.
- ✓ **Impacts** – Numerous low-lying and shoreline roads will be closed in the area, with adjacent properties taking on water. Cars may be destroyed if not moved to higher ground. Some flooding into areas that normally don't experience flooding.
- ✓ **Widespread Minor to locally Moderate coastal flooding (1-2 ft above ground)** along upper NY/NJ harbor.
- ✓ **Moderate coastal flooding (1.5 to 2.5 ft above ground)** along lower NY/NJ harbor, ocean shoreline, Great South Bay, and sound front communities of LI and Queens as well as Bronx.

Shoreline Hazards and Impacts:

- ✓ 9 - 13' breaking waves along the oceanfront, resulting in areas of dune erosion and localized overwashes.
- ✓ 4 - 8' along Western LI sound and Orient Point shoreline resulting in beach erosion, wave splashover, and possible damage to shoreline structures.

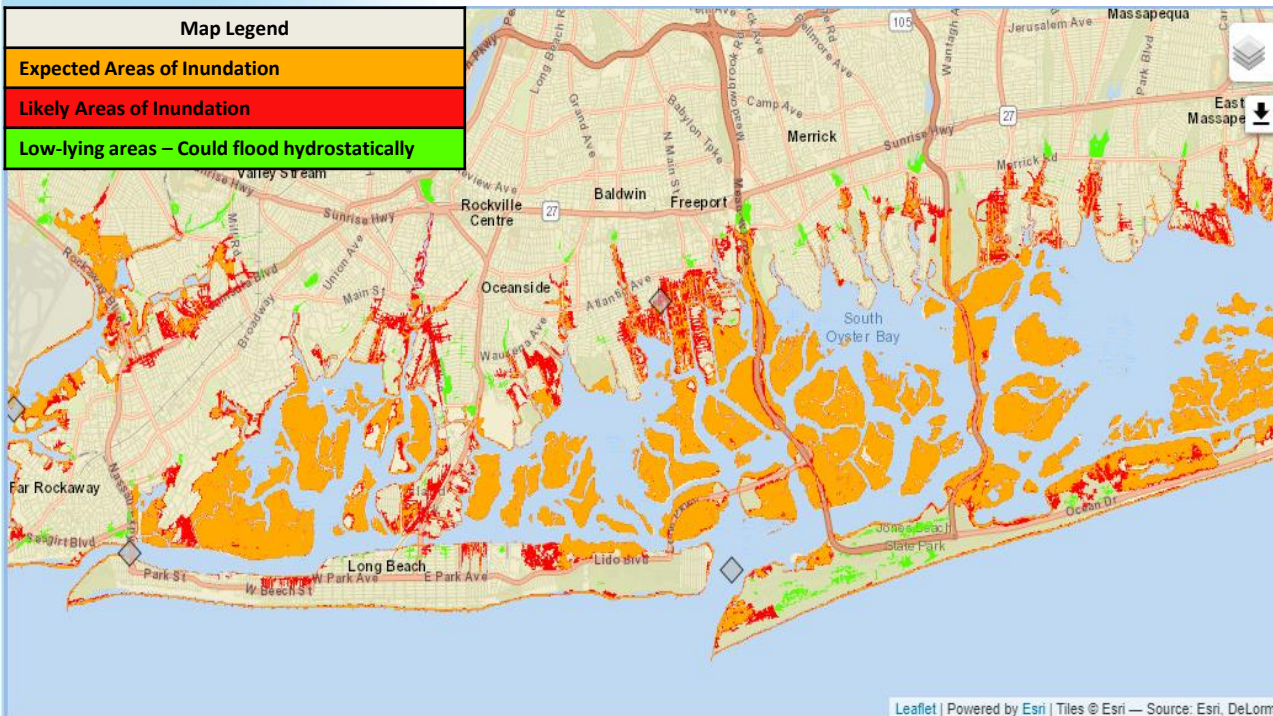
Timing:

- ✓ Around the times of high tide early Monday

Forecast Challenges: The forecast remains weighted towards higher guidance due to the strength of this system and wind shift timing uncertainty.

Coastal Flooding – Potential Flood Impact Areas

The map below shows the potential extent of flood impact (water above ground) during the Monday morning high tides. Flooding may be as deep as 2 to 3 ft in spots.



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Freeport (7am)	6.6-7.1 / 2.0-2.5	+(3.6-4.1)	Mod-Maj
East Rockaway (7am)	6.9-7.4 / 1.9-2.3	+(2.2-2.7)	Moderate
Point Lookout (7am)	6.8-7.3 / 2.1-2.6	+(3.0-3.5)	Moderate

Impact Catalogs - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

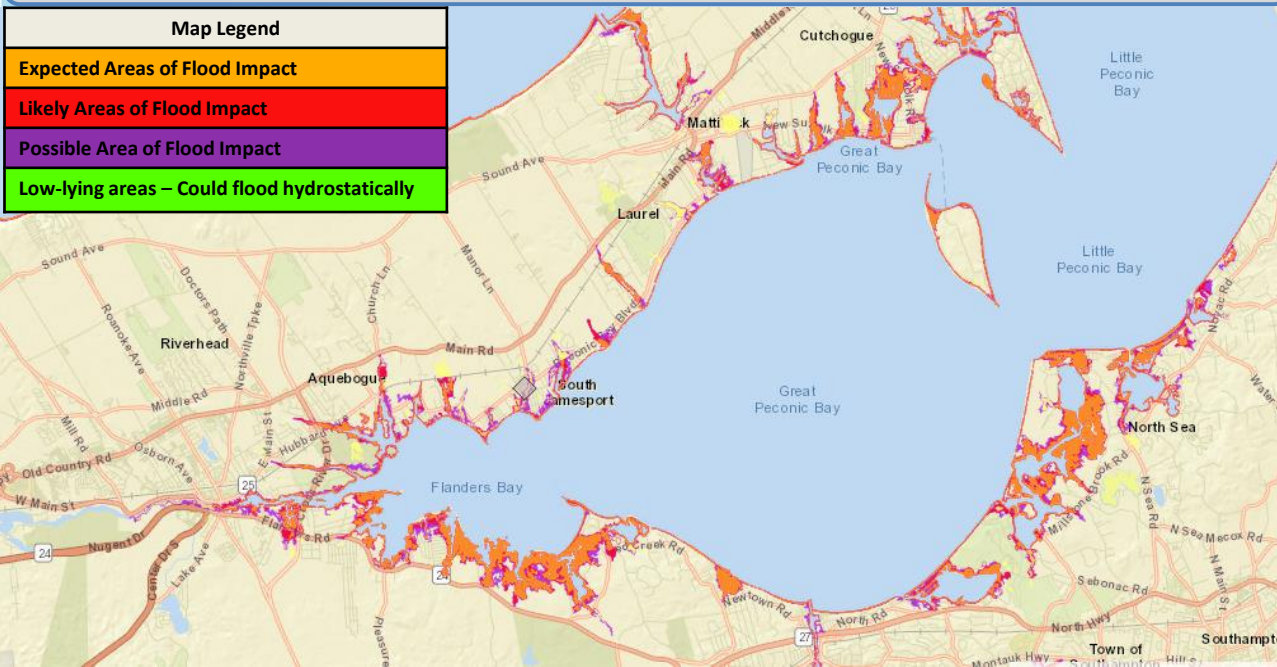
- [Freeport](#)
- [East Rockaway](#)
- [Point Lookout](#)

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Map Legend
Expected Areas of Flood Impact
Likely Areas of Flood Impact
Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Riverhead (11am)	6.9-7.4 / 3.6-4.1	+(4.0-4.5)	Mod-Maj
Orient Point (9am)	6.2-6.8 / 3.5-4.0	+(4.0-4.5)	Mod-Maj
Montauk (8am)	5.9-6.4 / 3.4-3.9	+(3.7-4.2)	Moderate

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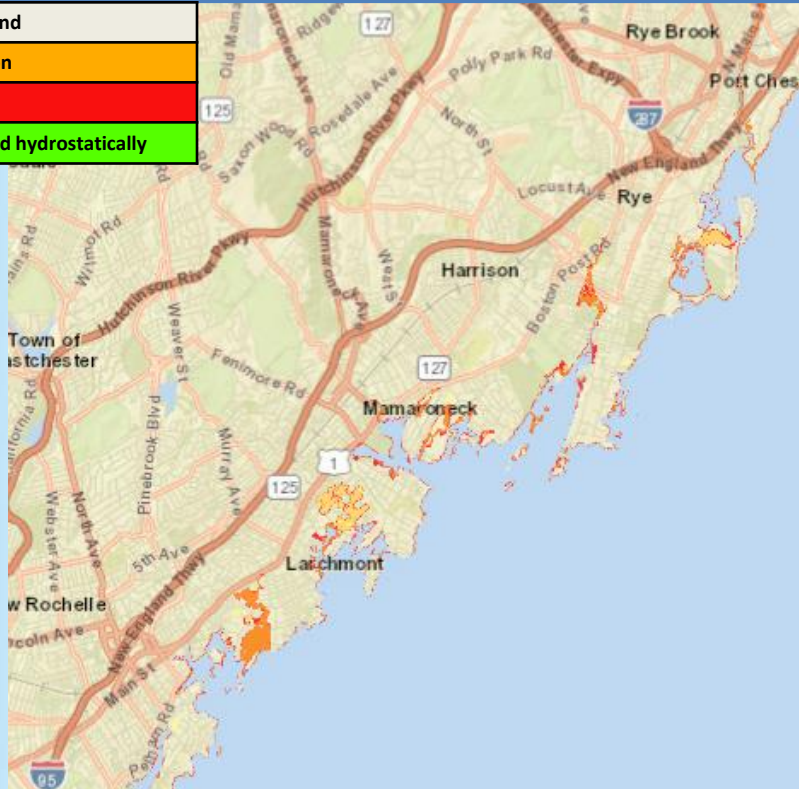
- [Riverhead](#)
- [Orient Point](#)
- [Montauk](#)

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Coastal Flooding – Potential Flood Impact Areas

The map below shows the potential extent of flood impact (water above ground) during the Monday morning high tides. Flooding may be as deep as 2 to 3 ft in spots.

Map Legend
Expected Areas of Inundation
Likely Areas of Inundation
Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Stamford (10am)	11.2-11.7 / 3.2-3.7	+(4.0-4.5)	Moderate
Kings Point (11am)	11.3-11.8/3.5-4.0	+(4.2-4.7)	Moderate

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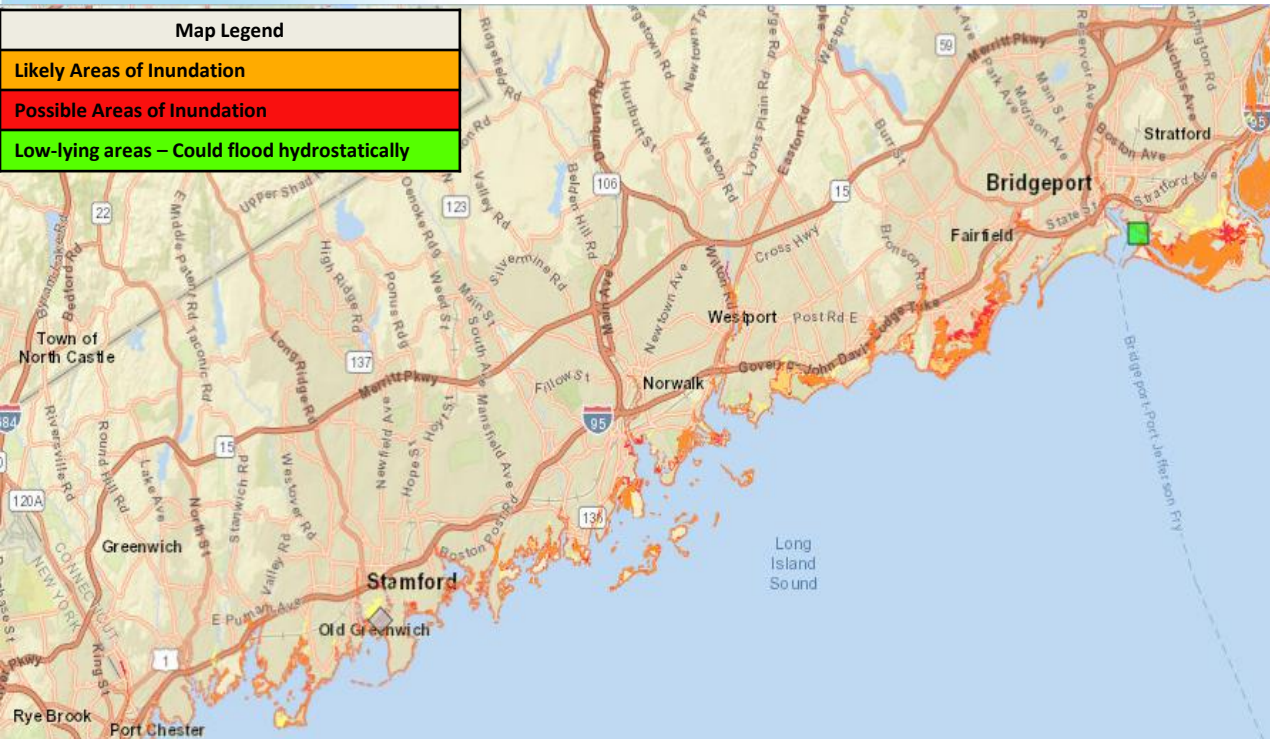
- [Stamford](#)
- [King Point](#)

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Possible Areas of Inundation
Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Stamford (10am)	11.2-11.7 / 3.2-3.7	+ (4.0-4.5)	Moderate
Bridgeport (10am)	10.6-11.1 / 3.2-3.7	+ (4.0-4.5)	Moderate

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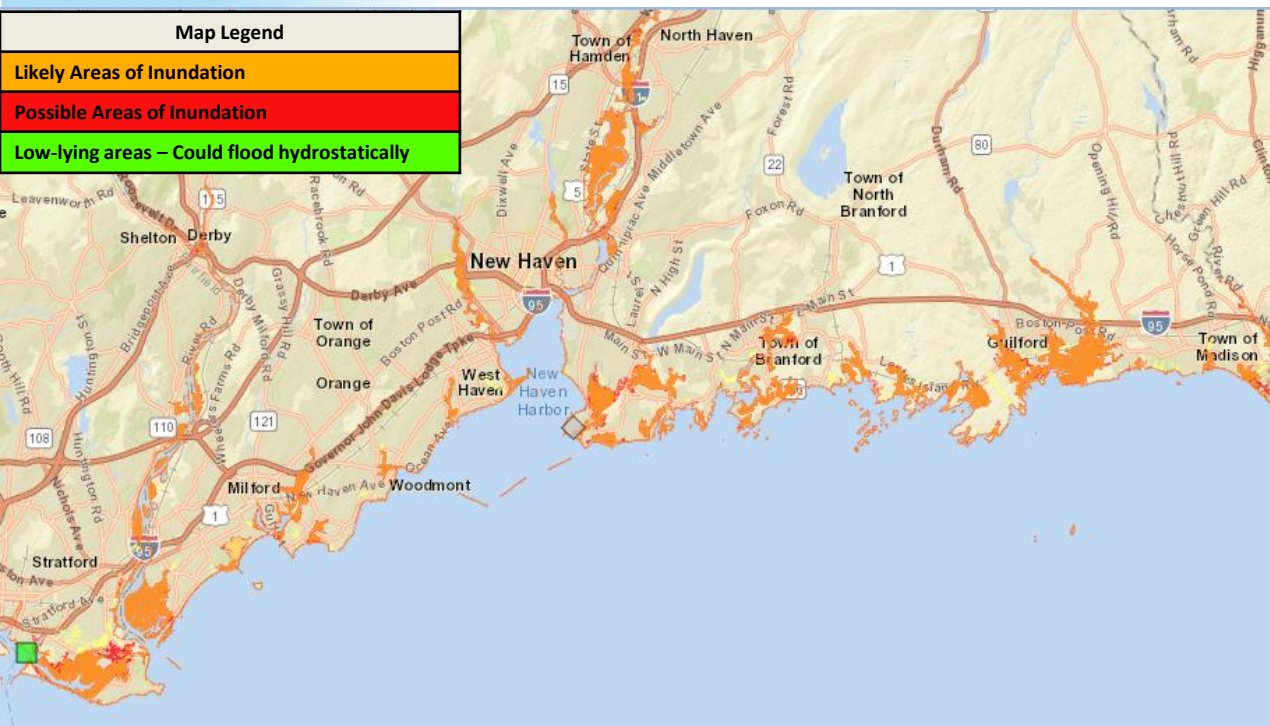
- [Stamford](#)
- [Bridgeport](#)

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Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
New Haven (10am)	9.9-10.4 / 3.2-3.7	+(3.7-4.2)	Mod-Maj
Bridgeport (10am)	10.6-11.1/3.2-3.7	+(4.0-4.5)	Moderate

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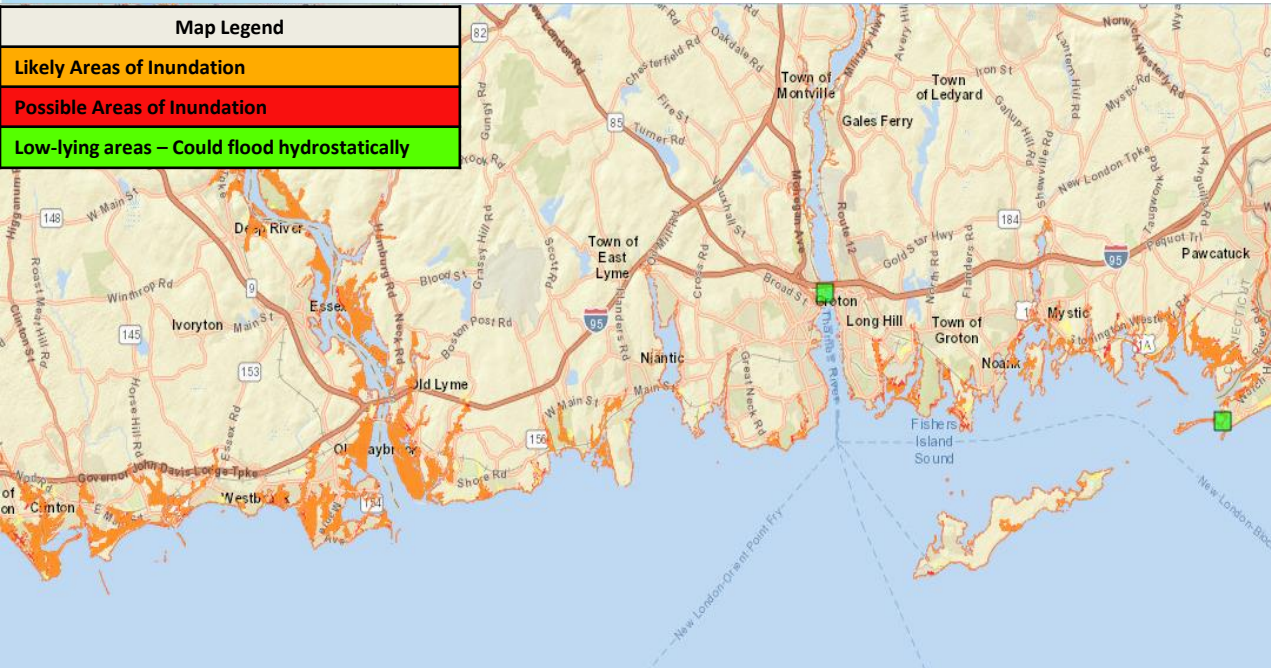
- [New Haven](#)
- [Bridgeport](#)

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Possible Areas of Inundation
Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
New London (9am)	6.2-6.8 / 3.2-3.7	+(3.7-4.2)	Moderate
New Haven (10am)	9.9-10.4 / 3.2-3.7	+(3.7-4.2)	Mod-Maj

Impact Catalogs - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

- [New Haven](#)
- [New London](#)

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Coastal Flooding Thresholds

	Minor (CF Advisory)	Moderate (CF Warning)	Major (Warning)
Picture	<p>Westport</p>	<p>Lindenhurst</p>	<p>New Haven</p>
Hazard	<ul style="list-style-type: none"> • Low threat of property damage...and no direct threat to life. • 1 to 2 ft of inundation in shoreline and vulnerable areas. 	<ul style="list-style-type: none"> • Elevated threat of property damage...with a risk to life if one places themselves in unnecessary danger. • 2 to 3 ft of inundation in shoreline and vulnerable areas. • Minor to no inundation of surrounding coastal communities. 	<ul style="list-style-type: none"> • Significant threat to life and property. • 3-5+ ft of inundation in shoreline and other vulnerable areas. • Minor to moderate inundation (1 to 3 ft) of surrounding coastal communities that rarely experience coastal flooding.
Impact	<ul style="list-style-type: none"> • A few shoreline and vulnerable roadways and adjacent properties will experience shallow flooding. 	<ul style="list-style-type: none"> • Several shoreline and vulnerable area home and businesses will experience water inside. • Several low-lying coastal and shoreline roads will be closed. • A few cars may take on water or even be destroyed. 	<ul style="list-style-type: none"> • Evacuations will be necessary for the most vulnerable shoreline and coastal areas. • Many coastal communities will experience damage...with some shoreline and flood prone homes and businesses being destroyed. • Many cars will likely be submerged or washed away. • Several sections of nearshore roads and escape routes will be impassable and a few could be washed out. • Flood waters may extend well inland in low lying areas.

Event Summary

- ✓ Widespread moderate to locally major coastal flooding around the times of high tide early Monday.
 - ✓ Highest threat along S Nassau County, CT and Westchester shorelines, and twin forks of Long Island.
- ✓ Strong to Damaging winds for the coast late this evening into Monday morning.
- ✓ Gale to Storm conditions on the nearshore waters.
- ✓ Wintry mix inland with mainly rain near the coast.
 - ✓ 2-4" of snow and glaze of ice for far interior portions of NE NJ and the Lower Hudson Valley.
 - ✓ 1-2" of snow and then possibly icy roads for rest of interior tonight
 - ✓ A light coating of snow possible for portions of NYC and coast and spotty freezing rain before a changeover to plain rain
 - ✓ Minor urban and poor drainage flooding possible for much of the region late tonight into Monday morning

